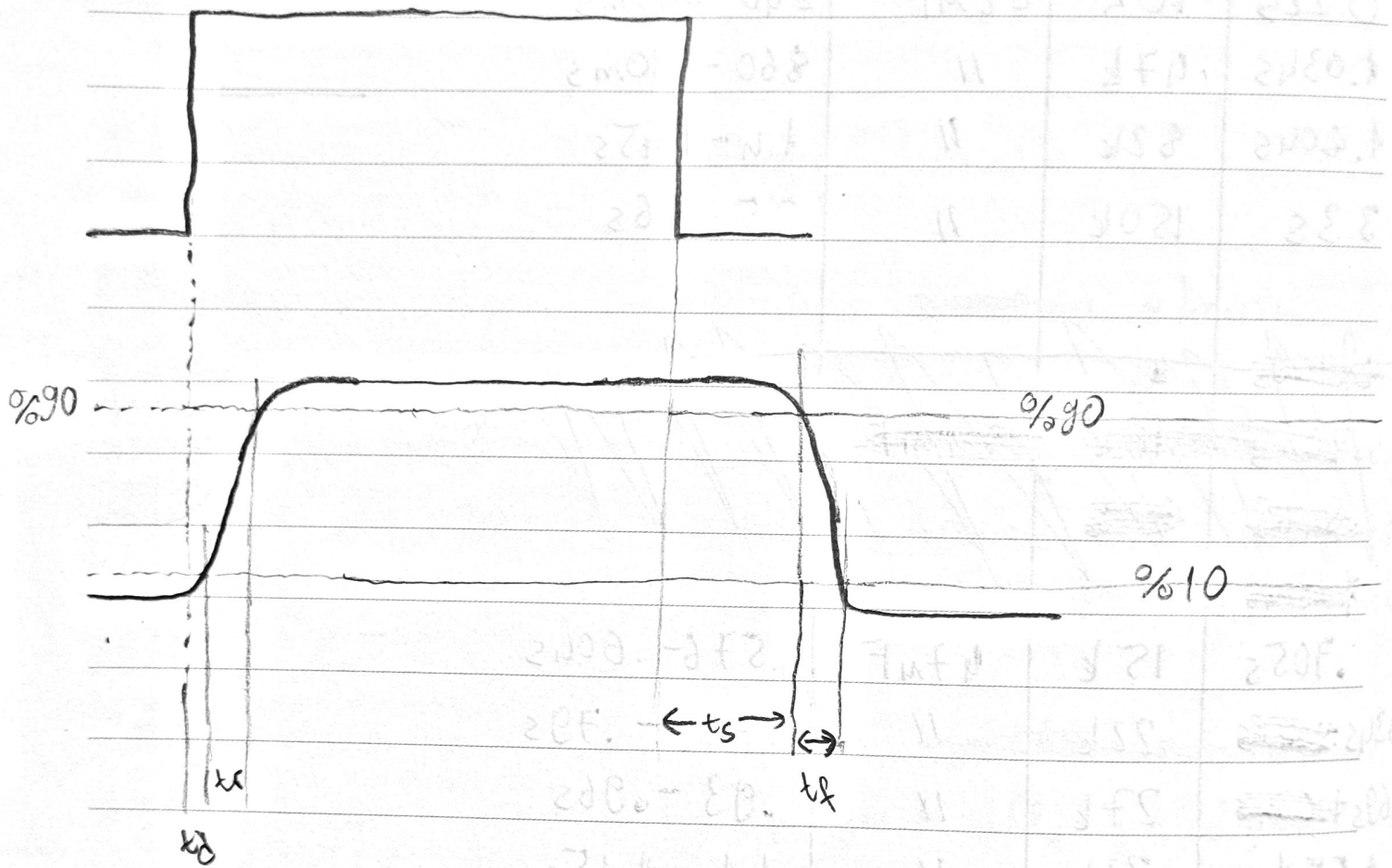


# BJT on-off time calculation ???



$$T_{on} = t_d + t_r$$

$$T_{off} = t_s + t_f$$

Capacitor stored  
charge

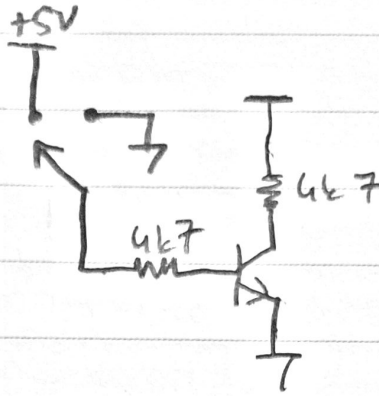
$$\begin{aligned} C &= Q/V \\ Q &= CV \end{aligned}$$

BC547 (Fairchild) → output capacitance (typical)  $C_{ob} = 3.5 \text{ pF}$   
input capacitance (typical)  $C_{ib} = 9 \text{ pF}$  (test cond. bla bla)

BC237 (on semi) →  $C_{cb}(\text{max}) = 4.5 \text{ pF}$   
 $C_{eb}(\text{typical}) = 8.0 \text{ pF}$

$$I = Q/t$$

$$t = Q/I$$



BC237 (on semi)

$$I_c = (5 - V_{CE(sat)(max)}) / 4k7 = (5 - .2) / 4700 = 1.02 mA$$

$$I_B = (5 - V_{BE(on-max)}) / 4k7 = (5 - .7) / 4700 = 914.89 \mu A$$

$$I_B = (5 - V_{BE(sat-max)}) / 4k7 = (5 - .83) / 4700 =$$

???

$$t = C_{cb} / I_c = 4.41 ns$$

$$t = C_{eb} / I_b = 8.74 ns$$

